

---

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (CURRENTLY AMENDED) A method of determining a source of emissions,

comprising the steps of:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility;

monitoring changes in emission readings from the sensors and a direction of those increased emissions;

superimposing known emission concentrations upon the sensors during a first monitoring cycle to enhance sensor sensitivity; and

performing a spatial temporal emission concentration analysis to identify ~~the~~ the source of emissions where the source of emissions is considered ~~as a centroid~~ to be an intersection of and lines drawn from sensors detecting increased emissions in the direction of the increased emissions ~~are assumed to cross at the source of emissions.~~

2. (ORIGINAL) The method as defined in claim 1, including a further step of supplementing the sensor array of emission sensors at fixed locations with portable sensors.

3. (CURRENTLY AMENDED) A method of determining a source of emissions,

comprising the steps of:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility;

---

monitoring changes in emission readings from the sensors;

superimposing known emission concentrations upon the sensors during a monitoring cycle to enhance sensor sensitivity; and

performing a spatial temporal emission concentration analysis to identify ~~the~~ the source of emissions;

the spatial temporal emission concentration analysis including data relating to wind speed and direction.

4. (ORIGINAL) The method as defined in claim 1, the sensors being electro-chemical sensors.

5. (CANCELLED)

6. (CURRENTLY AMENDED) ~~The method as defined in claim 1, including a further step of~~ A method of determining a source of emissions, comprising:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility;

monitoring changes in emission readings from the sensors and a direction of those increased emissions;

superimposing a gas compound that will react with the emissions ~~concentrations~~ and the sensors ~~will~~ will measure the reaction products as a way to amplify or isolate ~~the~~ a signal of the emissions from the gas of interest; and

performing a spatial temporal emission concentration analysis to identify the source of emissions where the source of emissions is considered to be an intersection of lines drawn from sensors detecting increased emissions in the direction of the increased emissions.

---

7. (CURRENTLY AMENDED) ~~The method as defined in claim 1, including a further step~~

~~of~~ A method of determining a source of emissions, comprising:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility;

monitoring changes in emission readings from the sensors and a direction of those increased emissions;

superimposing a gas compound that will react with a gas that causes interference as a way to remove the interference and amplify or isolate the a signal of the emissions from the gas of interest; and

performing a spatial temporal emission concentration analysis to identify the source of emissions where the source of emissions is considered to be an intersection of lines drawn from sensors detecting increased emissions in the direction of the increased emissions.

8. (CURRENTLY AMENDED) ~~The method as defined in claim 1, including a further step~~

~~of~~ A method of determining a source of emissions, comprising:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility;

monitoring changes in emission readings from the sensors and a direction of those increased emissions;

superimposing a gas compound that will coat the surface of the sensors[{}] with reaction products that make the sensors[{}] hyper-sensitive or hyper-specific to the emissions-gas of interest; and

---

performing a spatial temporal emission concentration analysis to identify the source of emissions where the source of emissions is considered to be an intersection of lines drawn from sensors detecting increased emissions in the direction of the increased emissions.

9. (CURRENTLY AMENDED) The method as defined in ~~claim 5~~ claim 1, including a further step of varying the superimposed known emission concentrations to verify sensor calibration.

10. (CURRENTLY AMENDED) The method as defined in claim 1, including a further step of using emission specific filters during a second monitoring cycle to isolate the sensors sensitivity to emissions of interest.

11. (CURRENTLY AMENDED) ~~The method as defined in claim 1, wherein~~ A method of determining a source of emissions, comprising:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility, multiple redundant sensors ~~[[are]]~~ being used to improve accuracy and identify sensors with erroneous readings;

monitoring changes in emission readings from the sensors and a direction of those increased emissions; and

performing a spatial temporal emission concentration analysis to identify the source of emissions where the source of emissions is considered to be an intersection of lines drawn from sensors detecting increased emissions in the direction of the increased emissions.

12. (ORIGINAL) The method as defined in claim 1, wherein multiple sensors are tuned to measure different gases.

---

13. (CURRENTLY AMENDED) ~~The method as defined in claim 1, including a further step~~

~~of~~ A method of determining a source of emissions, comprising:

positioning a sensor array of emission sensors in spaced relation at fixed locations about a facility;

providing a humidity module to maintain sensor operation at an ideal operational humidity level;

monitoring changes in emission readings from the sensors and a direction of those increased emissions; and

performing a spatial temporal emission concentration analysis to identify the source of emissions where the source of emissions is considered to be an intersection of lines drawn from sensors detecting increased emissions in the direction of the increased emissions.

14. (PREVIOUSLY PRESENTED) A method of determining a source of emissions, comprising the steps of:

positioning a sensor array of electro-chemical emission sensors in spaced relation at fixed locations about a facility, the sensor array including redundant sensors to improve accuracy and identify sensors with erroneous readings;

monitoring changes in emission readings from the sensors;

using emission specific filters during a monitoring cycle to isolate the sensors sensitivity to emissions of interest;

superimposing known emission concentrations upon the sensors during the monitoring cycle to enhance and verify sensor sensitivity; and

---

performing a spatial temporal emission concentration analysis to identify a source of emissions, the spatial temporal emission concentration analysis including data relating to wind speed and direction as an indicator of a direction of the source of emissions.

15. (PREVIOUSLY PRESENTED) The method as defined in claim 14, including a further step of supplementing the array of emission sensors at fixed locations with portable sensors.

16. (CANCELLED)

17. (PREVIOUSLY PRESENTED) The method as defined in claim 14, including a further step of varying the superimposed known emission concentrations to verify sensor calibration.

18. (PREVIOUSLY PRESENTED) The method as defined in claim 14, including a further step of providing a humidity module to maintain sensor operation at an ideal operational humidity level.

19. (CANCELLED)

20. (CANCELLED)

21. (CANCELLED)

22. (CANCELLED)

23. (CANCELLED)

24. (CANCELLED)

25. (CANCELLED)

26. (CANCELLED)

27. (CURRENTLY AMENDED) A method of determining a source of emissions, comprising the steps of:

taking emission readings with sensors from a plurality of locations about a facility;

---

monitoring changes in emission readings from the sensors and the direction of the emissions;

superimposing known emission concentrations upon the sensors during a monitoring cycle to enhance sensor sensitivity; and

performing a spatial temporal emission concentration analysis to identify ~~a~~the source of emissions where the source of emissions is considered ~~as a centroid and~~ to be an intersection of lines drawn from sensors detecting increased emissions in the direction of the increased emissions ~~are assumed to cross at the source of emissions.~~